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STRATOSPHERE™

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STRATOSPHERE MANUAL

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INSTALLATION

To install Stratosphere on your system, insert the game CD into your CD-ROM drive and:

1. Double click on Setup.exe at the root level of the CD. Or

2. Go to Run...in the your Start menu and type d:\setup.exe (substitute your CD-ROM's drive letter if different from "d:")

Follow the on-screen instructions as they guide you through the installation process.

For updates to Stratosphere, please refer to **www.kodiakgames.com, www.stratospherepc.com**, OR **www.ripcordgames.com**

System Requirements and Recommendations

Required: Microsoft Windows 95
DirectX Version 5 (included on CD)

Processor: Pentium 133 or better

CD-ROM: 4x speed

RAM: 32 Megabytes

Video: DirectX v5 compliant video card with 2MB for non-3D accelerated, 4MB with 3D accelerator.

IPX or TCP/IP LAN or 28.8 Modem for multi-player

Recommended

Processor: Pentium 166 with MMX 3D Accelerator:3Dfx, Voodoo Rush, PowerVR, Matrox Mystique, Matrox Millenium II, Diamond Viper V330, Rendition V1000/V2x00, ATI Rage Pro (XPert@Work, XPert@Play)

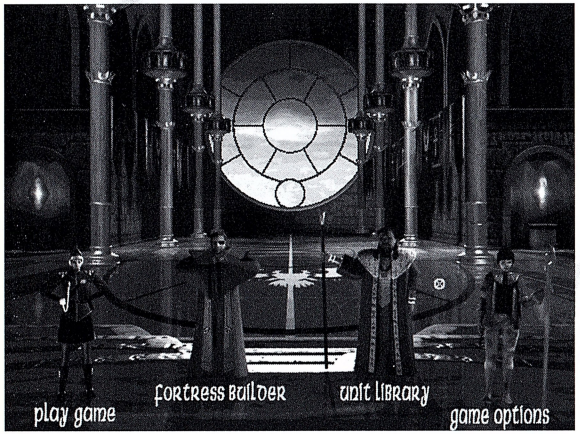
TUTORIAL

Once the Stratosphere title sequence has ended, you will find yourself in the throne room of Tollenspar Castle, with servants before you, ready to do your bidding.

Before you give your first order, you would do well to investigate the **Tutorial**, which can be accessed through the Options Menu that immediately appears on your screen. The tutorial gives you the opportunity to become familiar with the controls of your floatstone fortress, and with the many possibilities for personalized ship design.

If you're feeling impatient, that's all right—this helpful site can be accessed anytime during gameplay by returning to the Throne Room and choosing the **Play Game** Servant.

MAIN MENU



The Servants in the Tollenspar Throne Room are your escorts to all the menu options for Stratosphere.

Each figure represents a different function, and provides secondary menus or links to other screens when chosen with the mouse.

* Choose Servant 1 to access your **Play Game** options:
  - **Single Mission**
  - **Start Career**
  - **Load Mission**
  - **Multiplayer Mission**
  - **View Tutorial**
* Choose Servant 2 to enter the **Fortress Builder**, where you can custom build and test fly your fortress
* Choose Servant 3 to research new technology and plan resource allocation in the **Unit Library**
* Choose Servant 4 to review all **Game Options**, from performance and keyboard settings to exiting the Game

Play Game

Select this servant and review four avenues of gameplay:

New Career

Choosing New Career will start you on a series of missions that will allow you to take your place as a character in the Stratosphere universe. Work your way up the ladder of command, and with each promotion gain access to new technology and greater fortress capabilities. If you want to save your career-in-progress, simply press the ESCAPE key (or F8) during actual gameplay, or save it at the end of any mission in the career. Saved careers can be reactivated by choosing **Load Mission** in the **Play Game** menu.

For centuries, the Valley Kingdom was protected by it's aerial navy. Commanded by the King's officers, each flying fortress in the fleet guarded against smugglers, outlaws, and rebels, protecting the people of the Kingdom.
III.
I.
II.

Career Mode: Button Descriptions

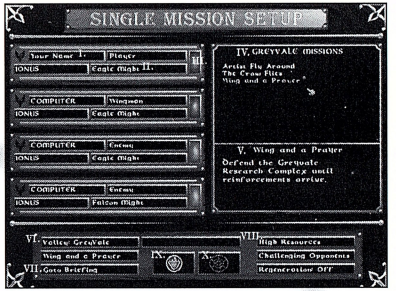
I. Return to main menu (Throne Room)

II. Rewind/Fast Forward: click on arrows to review pages of the chronicle for the current mission

III. Begin gameplay

Single Mission

It's you against the computer, with exciting missions available in any of ten fully rendered valleys. Mission goals include Search and Destroy, Ground Strike and Escort. You can try your luck against pre-ordained enemy ships, or customize gameplay with fortresses of your own design. To save a game in progress, press the ESCAPE key for options.



Single Mission Setup: Button Descriptions

I. Enter a custom identity

II. Access options to change fortress

III. Identifies fortress base color (cannot be changed in Single player mode)

IV. Select a mission

V. Mission description

VI. Access list of valleys

VII. Enter map screen and review mission objectives

VIII. Set level of resource availability in valley

IX. Begin gameplay

X. Return to main menu

Multiplayer Mission

Up to four players can participate in a multiplayer mission, either in teams or everybody for themselves. For all players, the setup of a Multiple Player Game begins with a *network startup* screen, where each player begins by choosing the appropriate network option. Note: The person starting the game must have the Stratosphere CD; all other players may join without one.

To see the latest news about multiplayer competition, please refer to:

WWW.STRATOSPHEREPC.COM OR **WWW.RIPCORDGAMES.COM**

Connection Types

Internet TCP/IP Connection

Allows four players per game. The latency time between the host and the other players' computers will affect your game performance.

Players that join a TCP/IP game must know the IP address of the host computer. To see the IP address, the host can use the Win 95 IP Configuration Viewer. To display the IP address of your computer, connect to your Internet Service Provider and then run WINIPCFG from the Start button. Select PPP Adapter from the drop-down box, and note the number in the IP Address window. This number can change upon reconnecting to your ISP. Minimizing the viewer will leave an IP address display on viewer's taskbar button.

To determine latency between your machine and the hosting machine, use the PING command. From the START button, choose Programs and then MS-DOS prompt. From the DOS prompt, type PING followed by the host's IP address, for example:

C:\windows>ping 103.105.1.66

Your will be given a confirmation line:

pinging 103.105.1.66 with 32 bytes of data:

reply 103.105.1.66: bytes=3D32 time=3D216ms TTL=3D126

reply 103.105.1.66: bytes=3D32 time=3D221ms TTL=3D126

reply 103.105.1.66: bytes=3D32 time=3D209ms TTL=3D126

reply 103.105.1.66: bytes=3D32 time=3D231ms TTL=3D126

Each line above represents a test message sent to the host computer. The latency time appears in milliseconds. A latency of less than 200 is recommended for playing Stratosphere.

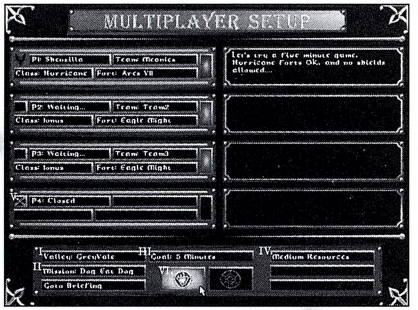
IPX (LAN) Connection -
Allows four players per game.

Modem Connection-
Requires a 28.8 or faster modem and a phone line connection. Allows two players per game.

Serial Connection-
Allows two players per game using a direct serial connection with a NULL modem cable.

Starting a Game

The player who starts the game (aka "Game Owner") then selects the option to "start a new game". This action produces a screen, which allows the game owner to name the game, and to customize their character name if desired. After these choices are completed, the Game Owner enters the MULTIPLAYER SETUP screen. Though the same screen appears whether you are starting a game or joining one, only the game owner will have the option to select most of the buttons which control the parameters of gameplay.



Starting a Game: Button Descriptions

I. Access list of valleys
II. Access list of missions for selected valley; each mission will load different default fortresses for all the players that they may either keep or change
III. Set goal: number of kills needed before mission is ended, or time if it is a timed mission
IV. Set level of resource availability in valley
V. Ready to Play: when it has been determined that no other players are going to join the game, and there are not four players, the game owner must check the box of all the unoccupied slots, closing them from further access. The Game Owner never needs to check their own box, but all remaining boxes must be checked before game before gameplay can begin.
VI. Begin gameplay

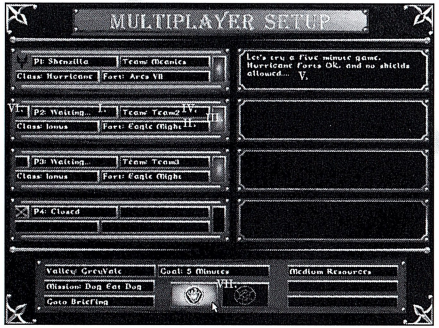
Joining a Game

Once a game has been started, up to three other players can join. After completing the *network startup* screen , select the option to "join a game". This action produces a screen, which allows each player to choose from any games that are currently open. A scrolling menu lists the name of the game and the names of the players who have already joined. Use your cursor to select the game you want to join, and take the opportunity to customize your character name, if desired. After these choices are completed, enter the MULTIPLAYER SETUP SCREEN.

As each player enters the MULTI-PLAYER SETUP screen, they may choose team names, fortress colors, and customize their fortresses. This is done by loading their own designs created in the fortress builder (or in a previous mission), or from a list of forts supplied in the \custom directory. Use the message box to make your preferences for gameplay known to the Game Owner, who is the only one who can control setup, and don't forget to check your Ready to Play box when all your customizations are complete. (SEE VI. next page)

Joining a Game: Button Descriptions

I. Enter a custom identity
II. Access options to change fortress
III. Access options to change fortress color (all members of a team have the same color fortress base)
IV. Enter a custom team name/join another player's team (all members of same team will have the same fortress color)
V. Message Box: As soon as you enter the MULTI-PLAYER SETUP screen, you are able to type comments in the message box that will automatically appear on the screens of all other players. Use this option to pick teams, fortress colors, let the Game Owner know what parameters for gameplay you prefer, and of course intimidate those you plan to crush in battle!
VI. Ready to Play: When you have completed your personal setup for gameplay (custom fort, team, etc.), you must check your box to alert the Game Owner that you are prepared for battle. After this box has been checked, you will be unable to make further changes to your setup. **All boxes must be checked before gameplay can begin.**
VII. Return to Main Menu



Load Mission

Choosing this option will give you the opportunity to resume any Single Player or Career Mission that has previously been saved on your system.

Fortress Builder

Select Servant 2 to enter Stratosphere's Fortress Builder. There you'll find the tools with which to create a fleet of unlimited size and variety, with over 60 unique structures at your disposal. Distribute your resources among weapons, defense and repair, thrust and maneuverability, and generation of the energy that makes it all run.

And in case you're looking for something beyond the traditional tools of battle, explore the use of Technomage Units, which bend the laws of physics to provide you with unprecedented strategic capabilities.

After you've assembled the ultimate fighting machine, try it out with a run in the specially designed Test Valley, then when you're completely satisfied, save it into a directory of your choice, where it can be accessed from any Setup Screen.

The following two-part text will explain what goes into the design of a fortress, then outline easy use of the Fortress Builder. Though it is possible to begin building a fortress without this instruction, your ability to build truly effective forts will be enhanced by an understanding of all its many elements.

Part I: The Elements of a Stratosphere Fortress

FORTRESS RATING SYSTEM

All fortresses, no matter by whom they are created or in which part of the game, are subject to a universal rating system based on the amount of resources that each fortress possesses. These resources may be used to increase a fort's technology level, expand the maximum size of the fort, or build more units. This rating system places the fort in one of five classes: Atmus, Ionus, Nimbus, Cumulus, and Hurricane, from lowest to highest. It is possible to play missions that pit lower and higher-class ships against each other (and the victor is not necessarily always the higher of the classes). It is also possible to enter a battle in possession of a lower class vessel, and through the collection of adequate resources, raise the class during gameplay.

MANAGING RESOURCES

Everything you build requires floatstone, a magical resource that can be found throughout the Stratosphere world. There are three types of floatstone: rock, ore and crystal. Rock and ore are used to build the fortifications used in combat. Crystal is used by fortifications of a higher technology level. These fortifications are called 'units', and they are described below (see Unit Types).

Acquiring Floatstone

Gather any loose Floatstone that is dislodged in battle, or your opponent will. Also, approach any Floatstone deposits found on mountainsides and they will release resources. When a fort collides with Floatstone, it is added to the fort's reserves; no physical change to the fort's appearance is noticed. Note that each fort has a floatstone capacity that is determined by its command tower.

Losing Floatstone

As forts engage in battle, weapons can damage units to the point where they explode, releasing a fraction of their Floatstone. Also, pilot your fortress with great care, for each collision with enemies or terrain results in severe damage. If a land hex or unit is damaged beyond its hit point value, it blows out, releasing its floatstone. Land hexes occupied by units are greatly strengthened, but collisions can damage and ultimately destroy a unit as well.

Fortified Land

The player can choose to fortify a hex of land by purchasing a fortification unit from the list of land builds. Fortified land has a higher hit point value than standard land, and it can still be used to support other units.

Cratered Land

Any land unit that is surrounded by five or more land hexes cannot be destroyed; instead, once the hex is damaged beyond repair, its surface becomes cratered. Cratered land cannot be used to support units until a land build replaces it.

If a cratered land hex is supported by less than five hexes before it is replaced, its is destroyed, releasing a fraction of its floatstone. To repair cratered land, build a new land hex on a cratered hex, and it can once again support units.

UNIT TYPES

There are six types of structures (called "units") that can be used to build your fort:

Command Tower

This is your Command and Control site. The command tower serves several purposes:

1) Its magnetic force determines the maximum radius of your fort. If you try to build beyond your fort's max radius, the out of bound hexes will be shown in red.

2) It provides minimal thrust to keep the fort moving. Note that without energy, your command tower's locomotive force is minuscule.

3) It provides a minimal ability to repair damaged units.

4) It is a source of minimal energy.

Be sure to protect your command tower; if it is destroyed, the magnetic force that holds your fort together is lost, and the fort will explode.

There are five classes of command tower from Alpha (smallest) to Gamma (largest). Note that you cannot upgrade your command tower during a mission.

During a career, each promotion results in a command tower upgrade.

Attack

Crush the opposition with ballistic fire (cannons), energy weapons (Laser Lighthouse), or floating mines (Creep Mine Rack). Weapons have a range and arc that can be seen when they are selected. There are two levels of attack: fortress level and ground level. Note that some of the more powerful weapons (e.g. the Laser Lighthouse and the Arc Projector) cannot strike targets at ground level.

Defense

These units either repair or prevent damage. Shields (Shield Wall Generator) automatically create a barrier that absorbs damage. Each hit drains a shield, and enough damage can cause the shield to fall. Shields can be recharged by an energy supply. Repair stations fix damaged units. First select the damaged unit(s), then press the repair "R" key. If none are selected, all damaged units receive a fraction of the repair value. Adding additional repair stations increases the fort's repair rate.

Energy

Every action of a Flying Fort requires energy. Each Energy unit will supply power to the units that form its energy network. To see an energy unit's network and the current state of energy management, select it with the LMB. Lines of power emanate through the entire network. If the power needs are being met, the network lines will be green. If there's insufficient energy, the network will be yellow or red. To improve the energy system, add more energy units or remove some of the network's energy demand (remove a unit or two).

Maneuver

Increase your top speed or turning rate with thrust jets and rudder jets.

TechnoMagic

These units have an indirect effect on battle that can be subtle or monumental. The Sweeper increases your fort's attractive force for collecting floatstone. The Graviton Well will send enemy ships hurtling across the valley! With a sufficient energy supply, some Technomage units (like the Sweeper) will constantly function. If a technomage unit's ability isn't always on (like the Graviton Well), select the Technomage unit and press the space bar to invoke it's function.

Part II: How to Use the Fortress Builder

1. Set your design parameters using buttons marked I-IV in the following illustration.
2. Using your mouse, scroll through the Fortress Unit List (VI.) to view the units available at your current technology Level. Units are color coded by function,

Red = attack
Gold = energy
Green = maneuver
Blue = defense/repair
Purple = technomage

3. Select a unit by choosing it with the mouse; information on the unit's resource cost and tech level will appear in the details screen (VIII.) For a more complete profile of the selected unit, click on the "stats" button (IX.)
4. Selecting a unit will load it onto the cursor; when you move the cursor into the field, the unit's hexagonal footprint, with a direction arrow, will appear (XII.) Red hexes indicate that the selected unit cannot be placed in that location, green hexes (seen when footprint is positioned over unoccupied fortress base) indicate placement is allowed.* The selected unit may be rotated clockwise for more efficient placement by clicking on the right mouse button. (Rotate counterclockwise by using Shift-Right Mouse Button). Only the Thrust Jet units may not be rotated, so that thrust is always generated from front to back.
5. Once a unit is placed on the fortress base, achieved by clicking the left mouse button, the unit will appear in place of the footprint. If you wish to remove any unit that has been placed, scroll the Fort Building List down to the end, where you will find a selection for removing units. Select this option and left-click on the unit you wish to remove. (Keyboard shortcut: to clear away any unused land after you have finished building, press CTRL-C.)
6. Fortresses can be test driven, saved, or cleared any time during the building process (XIV.-XVI.). Previously saved forts can be loaded into the fortress builder for modifications or redesign (XVI.).

Special Cases:

Edge Based units

The Auger for example must be placed on the fort's edge so that it can extend into the enemy fort. These "extension hexes" appear as yellow. Once these types of units are placed, these hexes cannot be used to support other units.

Shield units

When a shield unit is placed, its foot print includes the location of its shield. This is indicated by blue hexes. These hexes are still valid for building, but the shield only protects units behind this blue footprint.

Fortress Builder: Button Descriptions

I. Choose Fortress Class (resource pool will increase or decrease accordingly)

II. Choose Technology Level (fort building list will add or omit units accordingly)

III. Choose Command Level (gray boundary indicator and command tower will grow or shrink accordingly)

IV. Distribute resource pool among three categories: crystal, rock, and ore

V. Current fortress class and name (indicates "prototype" until fort is saved with a custom name)

VI. Color coded Fort Building Unit List with slider bar

VII. Highlighted button indicates currently selected unit

VIII. Details screen for currently selected unit

IX. Access to more detailed unit profile

X. Boundary indicator for current Command Tower Level

XI. Command Tower

XII. Footprint indicator with direction arrow

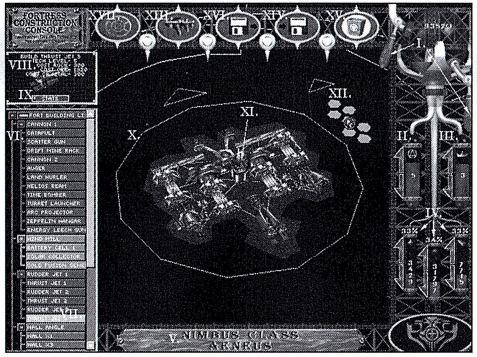
XIII. Take current fortress into test valley

XIV. Save current Fortress

XV. Clear fortress settings (all current settings will be lost)

XVI. Load a saved Fortress

XVII. Return to Main Menu



Unit Library

Select Servant 3 and enter the Unit Library, where you'll find a valuable strategy tool at your disposal. Detailed information, including full-color visuals, is provided on every unit in the Stratosphere catalog. Use these vital statistics to help you craft your master plan of battle. The Unit Library is especially useful for those pursuing a Career--promotions often come with new technology, and the Library is the perfect place to research each impressive new piece of equipment. If you are playing in career mode, you can access the Unit Library between missions without returning to the main menu.

In this mode you can review all units, or access exclusively the units collected after your latest victory.

Unit Library: Button Descriptions

I. Current unit profile

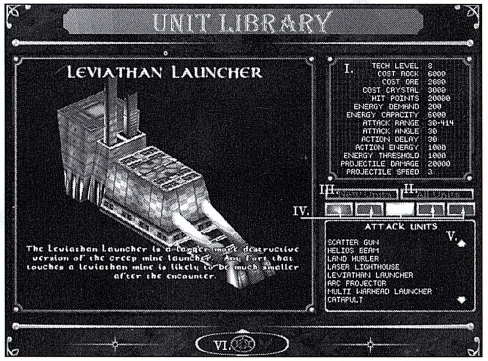
II. View list of entire catalog in alphabetical order

III. View only units acquired by promotion (career mode only)

IV. View units only in one category (attack, defense, energy, maneuver, or technomage)

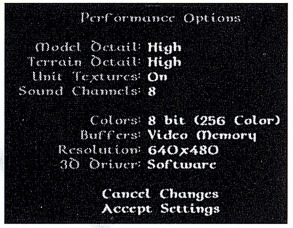
V. Scroll menu of units in selected category

VI. Return to main menu



Game Options

Finally, select Servant 4 to customize Stratosphere's settings to reflect your system requirements and personal style of gameplay. The secondary menu for this Servant will provide the access to settings for volume, controls, and performance. The settings of Performance Options are outlined in more detail below, to assist you in understanding the effect that certain settings will have on the look and feel of gameplay.



Model detail - Controls the level of visual quality for the units in the game. Higher settings look better but sacrifice some performance. Lower settings also make models disappear when far away, this can be adjusted during game play.

Terrain Detail - Controls the visual quality of the terrain. High detail includes fog and texture mapped ground. Medium has texture mapped ground, with no fog. Low has no fog and a flat shaded ground; lower settings can increase performance dramatically. Matrox Mystique and Millennium II users may wish to set terrain detail to Medium to turn off fog.

Unit Textures - When on, it turns on textures for the units. Turning off unit textures enhances performance significantly at the cost of visual quality. This setting cannot be changed when 3D accelerator has been selected.

Sound Channels - Controls the maximum number of simultaneous sounds that can be played. Higher settings sacrifice some performance.

Colors - 8 bit (256 color) increases performance sacrificing visual quality especially with fogging. 16 bit (High color) looks better, but can be slower.

This setting cannot be changed when 3D accelerator has been selected. Color is always set to 16 bit for 3D accelerators.

Buffers - Determines the location of rendering buffers. For the Software based 3D Driver, Video Memory will almost always be faster, however on certain machines System Memory may give a slight boost in performance, for stretch modes buffers will be forced into System Memory. For all 3D accelerators the buffers will be forced into Video Memory.

Resolution - Selects the screen resolution for the 3D game simulation. Stretch modes are only available for the Software setting. Stretch modes increase performance but reduce image quality. Resolutions over 640x480 are recommended for Pentium II class machines only.

3D Driver - The 3D Driver selects how Stratosphere draws 3D graphics. If there is not a 3D accelerator in the system, the Software driver is selected. If a DirectX compliant hardware 3D accelerator is installed, two 3D options may become available. If the 3D accelerator is built into the main video card, Primary 3D can be selected. Add on cards, such as the 3Dfx, will show up as a Secondary 3D option. If both primary and secondary 3D devices are installed, either can be selected. Certain performance options cannot be changed when the 3D Accelerator has been selected.

Performance Tips

If a 3D accelerator card is installed in the system, it should always be selected as it will yield the highest possible performance. When using software drivers the largest performance gains are achieved by turning down the Terrain Detail level. Additional performance gains in the software driver are realized by turning off Unit Textures and turning down the Model Detail level. On most video cards setting Buffers to Video Memory with the software driver should be faster. However, certain cards may work faster using System Memory for the Buffers. Most manufacturers have newer video drivers available for download that may improve performance. Check the release notes file on the CD for details.

Volume: If crackles in sound are experienced, reduce volume settings in menu and raise volume of computer speakers externally.

PLAYING THE GAME

Regardless of which game play mode you chose: Single Player, Career, or Network/Modem, the game play controls will always be the same (unless, of course, you choose to customize your keys--see Game Options for more details). As commander of your flying fortress, you must guide it through tight canyons, over hostile cities, and into deadly battle. Stratosphere utilizes both keyboard controls and on-screen interface to provide seamless control for both the novice and the seasoned pilot.

KEYBOARD CONTROLS

MANEUVERING YOUR FORT

UP ARROW: Applies forward thrust to the Fortress. The rate of acceleration and overall top speed is improved as you add Thrust Jets.

DOWN ARROW: Applies reverse thrust to the Fortress. The rate of deceleration is improved as you add Thrust Jets.

LEFT ARROW: Applies left rotational thrust to the Fortress. The rate of rotation is improved as you add more Rudder Jets.

RIGHT ARROW: Applies right rotational thrust to the Fortress. The rate of rotation is improved as you add more Rudder Jets.

ESC: Cancels current unit selections; if no units are selected, opens Options Menu and pauses the game. SHIFT and UP ARROW activates any Boosters currently on the Fortress.

SHIFT and DOWN ARROW Activates any Brake Thrusters currently on the Fortress.

TARGETING THE ENEMY AND FIRING WEAPONS:

Use the mouse to move the targeting cursor. Press the LMB when the cursor is within a weapon's firing arc and all units that can fire at that spot will fire. Some weapons will simply travel to the point specified and either hit or miss; these weapons possess a firing arc drawn with a solid line. Others (like the land hurler and arc projector) travel in a flat path beyond their firing arc, and are identified by a firing arc made up of a dotted curve. These weapons can be used for long range attacks, but they require good timing to lead the target. Finally, mines like those of the time bomber will drift and then explode some time after they are launched. Be careful to be beyond their range when they detonate. Use the "H" key to toggle the cursor height between targeting units at ground level and targeting units at Fortress level.

MANAGING UNITS

All objects on your fortress are represented in a "tree" of names along the right side of the screen. These tree entries display unit health and energy state, and can also be used to order repairs. To select a unit, move the cursor over the unit or it's entry in the unit tree and press the Left Mouse Button.. Once selected, the units' information is displayed in the unit window above the tree. If the unit is being repaired (see REPAIRING UNITS), it will be tagged with a repair cross icon. When a unit is selected, you will also see that unit's energy connections to adjacent units and their power supply state (green, yellow, or red).

SELECTING A GROUP OF UNITS

Hold down the Shift key to select a series of units one at a time. By selecting multiple units, you can repair them all at once (albeit more slowly). To select all units, press CTRL-A.

VIEWING ENEMY UNIT STATUS

As you encounter enemy forts, their units can appear in the tree as well. They are found beneath your fort tree. These entries are updated only when the enemy fort is in close range.

REPAIRING UNITS

Press 'R' to repair the units currently selected. Note that your fort can only repair a fixed amount of damage per time frame, so if you want to fix a single unit as quickly as possible, don't try to repair any other units at the same time. If no units are selected, all damaged units are repaired.

OTHER UNIT MANAGEMENT CONTROLS

ESC
Cancels current unit selections; if no units are selected, opens Options Menu and pauses the game

CTRL(0-9)
Currently selected units are assigned to a numbered macro.

(0-9)
Selects the units that you have assigned to that macro key.

CAMERA CONTROLS

HOME	Zooms the camera in
END	Zooms the camera out
PAGE UP	Raises the camera to near top down view
PAGE DOWN	Lowers the camera to near horizon view
W	Rotates the camera around the Fortress counter clockwise
E	Rotates the camera around the Fortress clockwise
W and E	Locks the camera rotation
F1	Camera rotates to look in front of the fortress
F2	Camera rotates to look behind the fortress
F3	Camera rotates to look to the right of the fortress
F4	Camera rotates to look to the left of the fortress
C	Toggles Automatic Attack Camera on or off. If Automatic Attack Camera is toggled on the camera will automatically raise to a near top down position whenever you approach a target.
F5	Restart Mission
F6	Save Fort
F7	Load Mission
F8	Save Mission

BUILD MODES

There are 2 different kinds of build modes: Maintain Build Mode and Manual Build Mode. The mode tab displays the current mode's icon. Press this mode tab to change the Build mode. This tab defaults to Maintain Build Mode.

MAINTAIN BUILD MODE

This mode simply attempts to keep the fort at a defined ideal state. As soon as you enter Maintain Mode a "snapshot" of your fort is taken, and as long as the fort has sufficient floatstone reserves, it will always return to this state. In addition, a new "snapshot" will be taken any time the player builds on the fort. If a different mode is selected, all current maintain information is lost. Whenever Maintain Mode is reactivated, a new "snap shot" is taken.

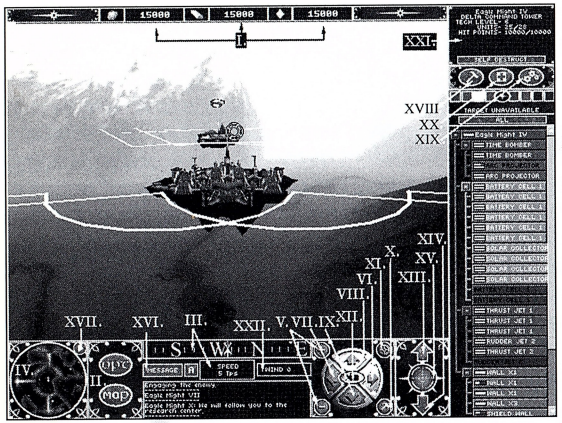
MANUAL BUILD MODE

In this mode, all building is up to you, including the rebuilding of any units destroyed during gameplay. Manual Build mode operates in most ways like the Fortress Builder. (refer to the section entitled FORTRESS BUILDER for more detailed instructions). Note that your current technology level will determine which units are available. The display screen located above the unit tree will show how much of the different types of floatstone will be needed to construct the selected unit. If you do not currently have adequate reserves of any of the three types, that number will be displayed in white, indicating that you cannot build that unit at that time.

B Toggles the Manual Build Mode on or off. If the Build Camera is toggled on, the camera is put in a topdown view close up of your Fortress whenever the Build Mode is activated.

MISCELLANEOUS KEYBOARD CONTROLS

ENTER	Opens message window in Multiplayer Mode. Press TAB to cycle through send options (send to all, enemy forts, friendly forts, or individual forts), type message, then press ENTER again to send.
+ / -	Increases/Decreases world display window (up to full screen). A smaller window should improve update performance.
M:	Activates the map screen (any key press will exit you from the map screen or clicking on the accept button).
F5	Restarts the Mission.



On-Screen Controls: Button Descriptions

I. Floatstone Reserves

During a mission, the fort's Floatstone reserves are shown at the top of the screen for the rock, ore and crystal categories in that order. As Floatstone is gathered, these numbers will increase. As units and land are built, these numbers will decrease.

II. Map

Enter the map screen anytime during gameplay to check your location in relationship to the entire valley and review mission objectives. Your fort's location and facing are shown in green with a pixel trail. Until the valley is explored, the map is obscured. Once an area has been seen, it remains visible in the valley map. The map will display friendly/enemy forts only if they can be seen in the short range sight device (see below). Permanent installations (cities) remain visible even after they are no longer visible in the short range device. The objectives of the mission are listed to the right of the map. If an objective has been completed it should be green; if it hasn't been completed it is red. Name of the valley and mission appear at the base of the screen.

III. Compass/Speedometer

Speed is indicated by colored numbers – The color of the numeral changes to indicate positive (green) and negative (yellow) speeds.
The Compass is displayed horizontally - all 4 compass points are visible in this scale. In the center of scale is the camera facing. There is a free moving tick mark to indicate the fortress direction. For example, if a fort is heading due north, but the camera has been rotated to face east, the centered tick mark will be pointing to `E' (east), but the floating tick mark will point to `N' (north). Stationary yellow ticks along the upper edge of the compass indicate the position of nav points. Stationary ticks on the lower edge of the compass indicate the position of selected objects.

IV. Short Range Sighting Device (radar)

The fort is always centered in the display, and the display rotates to match the camera orientation (so objects in front of the fort will always appear in the top half of the display). All mountain terrain is shown as a series of blue collision lines, and any flying forts or ledged forts in line of sight appear (green is friend, red is foe). Jumpgates appear as points of white; friendly cities and their rocket/flak launchers are shown in dark green, enemy cities and their weapons in dark red. Each nav point appears as a yellow star on the screen until it is reached by the player's fortress, then it changes to green.

V. Zoom In/Zoom Out

VI. Rotate camera view to the right

VII. Rotate camera view to the left

VIII. Tilt Camera up

IX. Tilt Camera down

X. Activate Build Camera

XI Activate Attack Camera

XII Repair selected units

XIII. Set targeting to fortress level

XIV. Set targeting to ground level

XV. Toggle Arc Modes:

When this button is "on", all units show firing arcs and can be activated manually; when this button is "off", only selected units can be fired

XVI. Cycle through transmission types:

This button can be changed to give you

a) Nav Point Information

b) The ability to receive mission directives in single player and career modes and to read messages from other players in multiplayer mode (for directions on sending messages, refer to Keyboard Controls)

c) Computer messages about mission goals

XVII. Enter full-screen mode (gameplay screen fills monitor; only radar remains of interface art)

XVIII. Toggle Build/Select and Compass Mode

XIX. Toggle Maintain/Manual Build Mode

XX. Repair all units

XXI. Object Information Screen

XXII. Current wind velocity and direction

Quick Tips

Regardless of which game play mode you chose: Career, Single Mission or Mulitplayer, the default game play controls will always be the same.

Note that you can reconfigure your keys from the Main Menu options screen.

As commander of your flying fortress, you must guide it through tight canyons, over hostile cities, and into deadly battle. Use these keys to pilot your ship.

UP ARROW Applies forward thrust to the Fortress. The rate of acceleration and overall top speed is improved as you add Thrust Jets.

DOWN ARROW Applies reverse thrust to the Fortress. The rate of deceleration is improved as you add Thrust Jets.

LEFT ARROW Applies left rotational thrust to the Fortress. The rate of rotation is improved as you add more Rudder Jets.

RIGHT ARROW Applies right rotational thrust to the Fortress. The rate of rotation is improved as you add more Rudder Jets.

Targeting the enemy and firing weapons:

Use the mouse to move the targeting cursor. Press the LMB when the cursor is within a weapon's firing arc and all units that can fire at that spot will fire. Some weapons will simply travel to the point specified and either hit or miss. Others (like the land hurler and arc projector) travel in a flat path beyond their firing arc. These weapons can be used for long range attacks, but they require good timing to lead the target. Finally, mines like those of the time bomber will explode some time after they are launched. Be careful to be beyond their range when they detonate.

H Toggles the cursor Height between targeting at ground level and targeting at Fortress level.

Managing Units

All objects on your fortress are represented in a "tree" of names along the right side of the screen. These tree entries display unit health and energy state, and can also be used to order repairs. **To select a unit**, move the cursor over the unit or its entry in the unit tree. Once selected, the unit's information is displayed in the unit window above the tree. If the unit is currently being repaired (see Repairing your fortress), it will be tagged with a repair cross icon. When a unit is selected, you will also see that unit's energy connections to adjacent units and their power supply state (green, yellow, or red)

Selecting a Group of Units

Hold down the Shift key to select a series of units one at a time. By selecting multiple units, you can repair them all at once (albeit more slowly).

To select all units, press CTRL-A.

Viewing Enemy Unit Status

As you encounter enemy forts, their units can appear in the tree as well. They are found beneath your fort tree. These entries are updated only when the enemy fort is in close range.

ESC Cancels current unit selections; If no units selected, opens Options Menu and pauses the game

Repairing Units

Press 'R' to repair the units currently selected. Note that your fort can only repair a fixed amount of damage per time frame, so if you want to fix a single unit as quickly as possible, don't try to repair any other units at the same time.

Control and a Number (0-9)

Currently selected units are assigned to a numbered macro.

NUMBER (0-9) Selects the units that you have assigned to that macro key.

Camera

HOME Zooms the camera in

END Zooms the camera out

PAGE UP Raises the camera to near top down view

PAGE DOWN Lowers the camera to near horizon view

W Rotates the camera around the Fortress counter clockwise

E Rotates the camera around the Fortress clockwise

W and E Locks the camera rotation

F1 Camera rotates to look in front of the fortress

F2 Camera rotates to look behind the fortress

F3 Camera rotates to look to the left of the fortress

F4 Camera rotates to look to the right of the fortress

C Toggles Automatic Attack Camera on or off. If Automatic Attack Camera is toggled on the camera will automatically raise to a near top down position whenever you approach a target.

V Toggles build camera on or off. When the build camera is off the camera will not zoom in to the fort when the player goes into build mode.

I Toggles manual-maintain mode. When in maintain mode the fort will attempt to rebuild the destroyed units automatically. When manual mode is

set you can choose the units to rebuild by double clicking on the unit in the tree.

X Toggles arc mode on or off. The units that can manually fire are those that show their arcs. When arc mode is on all the units that can fire will show their arcs. When the arc mode is off, only the selected units will show their arcs. All of the units may still auto-fire.

Build Modes

B Toggles the Build Mode on or off. If the Build Camera is toggled on, the camera is put in a top down view close up of your Fortress whenever the build Mode is activated.

Other Controls

+ Increases world display widow (up to full screen)

- Decreases the world display window. A smaller window should improve update performance.

,. Changes the size of the pixels in stretch mode. Use the shift key to make the pixels smaller.

M Toggles the map screen.

F5 Restarts the mission

F6 Saves your fortress

F7 Load a saved game

F8 Save game

Joystick Support

Stratosphere supports a 2 axis joystick for use in flying. The fire buttons are as follows:

1 Same as holding the shift key (used for brake sails and boosters)

2 Change joystick to rotate the camera left/right/up/down.

3 Change joystick to rotate left/right and zoom in/out.

4 Toggles between fortress and ground level.

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